

Übungen in Analysis $\diamond$ Exercices en analyse $\diamond$ T. E1 $\diamond$ II / 02

Untersuche die Konvergenz:

- *Examiner la convergence:*

Probl. 1 $\sum_{k=1}^{\infty} \frac{1}{3^{k-1}}$

Probl. 2 $\sum_{k=1}^{\infty} \frac{1}{k^3}$

Probl. 3 $\sum_{k=1}^{\infty} \frac{k^2 - 2k}{k^6 + k^4 + k^2 + 1}$

Probl. 4 $\sum_{k=1}^{\infty} \frac{1}{k(k+1)}$

Probl. 5 $\sum_{k=1}^{\infty} (-1)^k \left(\frac{1}{k} + \frac{1}{k^2} \right)$

Probl. 6 $\sum_{k=1}^{\infty} \frac{\sin(k)}{k^3}$

Probl. 7 $\sum_{k=1}^{\infty} \frac{k}{e^k}$

Probl. 8 $\sum_{k=1}^{\infty} \frac{k^2}{k!}$

Probl. 9 $\sum_{k=1}^{\infty} \frac{2 - (-1)^k}{4^k}$